



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,532	10/11/2005	Yasushi Hayashi	MAT-8748US	4368
52473	7590	01/08/2008	EXAMINER	
RATNERPRESTIA			BAYOU, AMENE SETEGNE	
P.O. BOX 980			ART UNIT	PAPER NUMBER
VALLEY FORGE, PA 19482			4147	
MAIL DATE		DELIVERY MODE		
01/08/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/552,532	HAYASHI, YASUSHI	
	<b>Examiner</b>	<b>Art Unit</b>	
	AMENE S. BAYOU	4147	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 10/11/2005.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-7 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-7 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 11 October 2005 is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 10/11/2005.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_.

## 1DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1,2 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Park et al (US7100743B2).

3. In re claim 1, Park et al'743B2 in figures 1,2 and 15 discloses the claimed invention including:

- A single phase induction motor (20) formed of start (105) and a rotor (22)
- A compressing mechanism (31) driven by the motor (20)
- A hermetic container (11) for accommodating the motor (20) and the compressing mechanism (31) and for pooling lubricant
- A shaft having a main shaft (110) and sub shaft (130)
- A cylinder (32) for forming a compressing chamber (31)
- A bearing (120) for supporting the main shaft (110)
- A centrifugal pump (151) opening into the lubricant
- A forward leading groove (343a) engraved on an outer wall of the main shaft and having a first end communicating with the centrifugal pump (151) and a second

end communicating with an annular lubricant groove (113) provided on an upper end of the bearing

- A reverse leading groove (343b) having a lead directing in an opposite direction to that of the forward leading groove ,a first end communicating with the centrifugal pump 9151) and a second end directly opening to the annular lubricant groove (113)
- A vertical hole (144) bored in the sub shaft and having a first end communicating with the annular lubricant groove and a second end opening into the hermetic container (11)

4. In re claim 2 Park et al'743B2 in figure 15 and columns 15,lines 50-52 discloses the claimed invention including:

- The reverse leading groove (343b) of which first end communicates with the centrifugal pump (151) via a thinner section of the shaft formed at the intermediate section of the shaft

5. In re claim 5 Park et al'743B2 in figure 16 discloses the claimed invention including:

- A vertical hole slants with respect to a shaft center of the main shaft such that an upper section of the vertical hole slants outward

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al'743B2 in view of Goodnight (US patent 6457561B1)

8. In re claim 3, Park et al'743B2 in figure 15, discloses:

- A forward leading groove (343a)
- A reverse leading groove (343b)

But Park et al'743B2 fails to disclose:

- Crossectional area of the reverse leading groove is smaller than that of the forward leading groove.

However, Goodnight'561B1 in column 7 lines 5-10and 30-40 teaches :

- The pitch and depth of the forward and reverse helical grooves can have different values depending on design factors.
- Forward helical groove may not be a mirror image of the reverse leading groove

9 . It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the reverse leading groove of Park et al'743B2 as taught by Goodnight'561B1in order to make the area of the reverse leading groove smaller than that of the forward leading groove since such

modification would be an obvious design choice in order to control the flow rate in the forward and reverse leading grooves.

10. In re claim 4, Park et al'743B2 in figure 15, discloses:

- A forward leading groove (343a)
- A reverse leading groove (343b)

But Park et al'743B2 fails to disclose:

- Lead of the reverse leading groove is greater than that of the forward leading groove.

However, Goodnight'561B1 in column 7 lines 5-10 and 30-40 teaches :

- The pitch and depth of the helical grooves can have different values depending on design factors
- Forward helical groove may not be a mirror image of the reverse leading groove

11. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the reverse leading groove of Park et al'743B2 as taught by Goodnight'561B1 in order to make the lead greater than that of the forward leading groove since such modification would be an obvious design choice in order to control the flow rate in the forward and reverse leading grooves.

12. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al'743B2 in view of Goodnight (US patent 6457561B1)

13. In re claim 6, Park et al'743B2 in figure 15, discloses:

- A forward leading groove (343a)
- A reverse leading groove (343b)

But Park et al'743B2 fails to disclose:

- Cross sectional area of the reverse leading groove is smaller than that of the forward leading groove.

However, Goodnight'561B1 in column 7 lines 5-10and 30-40 teaches :

- The pitch and depth of the helical grooves can have different values depending on design factors
- Forward helical groove may not be a mirror image of the reverse leading groove

14. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the reverse leading groove of Park et al'743B2 as taught by Goodnight'561B1in order to make the area of the reverse leading groove smaller than that of the forward leading groove since such modification would be an obvious design choice in order to control the flow rate in the forward and reverse leading grooves.

15. In re claim 7, Park et al'743B2 in figure 15, discloses:

- A forward leading groove (343a)
- A reverse leading groove (343b)

But Park et al'743B2 fails to disclose:

- Lead of the reverse leading groove is greater than that of the forward leading groove.

However, Goodnight'561B1 in column 7 lines 5-10and 30-40 teaches:

- The pitch and depth of the helical grooves can have different values depending on design factors
- Forward helical groove may not be a mirror image of the reverse leading groove

16. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the reverse leading groove of Park et al'743B2 as taught by Goodnight'561B1 in order to make the lead greater than that of the forward leading groove since such modification would be an obvious design choice in order to control the flow rate in the forward and reverse leading grooves.

### ***Conclusion***

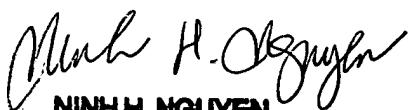
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ishida et al (US patent number 7144229B2) discloses sealed type electrically driven compressor. Choi (US patent number 5971724) discloses hermetically reciprocating compressor having an oil guiding path .Khou et al (US patent number 5842420) discloses crankshaft lubrication system

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amene S. Bayou whose telephone number is 571-270-3214. The examiner can normally be reached on Monday-Thursday, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Nguyen can be reached on 571-272-4491. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Amene S Bayou  
Examiner  
Art Unit 4147

  
NINH H. NGUYEN  
PRIMARY EXAMINER  
01/07/08